

ARS □ CSREES □ ERS □ NASS

Policies and Procedures

Title: Authorship of Research and Technical Reports
and Publications

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This Directive clarifies responsibilities related to job assignments and provides guidelines for crediting authorship of scientific and technical publications.

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1. BACKGROUND

Authorship is a function of one's contribution. Regardless of grade, classification, or title, if an individual has made a meaningful and effective contribution to the planning, implementation, analysis, or preparation of a manuscript, then that individual should be considered as a potential author or coauthor. Obviously, if the contribution has simply been a routine service function, a field treatment or other rote application as a standard procedure, or a mechanical compilation of data, this would hardly qualify. But if new methods have been developed and tested, if new hypotheses have been developed and applied, if special techniques have been modified and evaluated--in short, if the individual has been a creative and full partner in making the research a success-- then that person should be given full consideration in determining authorship or coauthorship.

2. ASSIGNMENTS

- Research scientists are expected to participate in all phases of the research process and to report their work in all types of publications. Senior authorship is used to recognize the contributions of the principal investigator (or the one who exercised leadership in planning, executing and reporting research) in the project.
- Support scientists make essential and highly technical contributions to the research program through an understanding of the theoretical aspects of the science. On the other hand, they are employed to assist research scientists who have primary responsibility for a specific project or some portion of a project or program. It follows, therefore, that a support scientist is not delegated responsibility for all phases of the research from conception to publication.

Upon determination of the principal investigator(s), support scientists:

- May appear as junior authors on publications if their contributions warrant such recognition.
- May appear as senior authors only with the approval of the appropriate Area Director on manuscripts relating to phases of the project in which they have expertise and have met the criteria for authorship. The prospect of senior authorship should be foreseen and approval obtained at the outset of the project, but no later than after the work is completed and before the writing has begun.

- Nonresearch scientific professional employees who perform work involving service to the public or to other Government agencies (Category 4), may from time to time author articles related to their program assignments.
- The establishment of research scientist positions at the GS-9 level implies potential and commitment for a Scientist Year GS-11 and above assignment. Coauthorship is likely and senior authorship is possible in such situations.
- Technicians have the responsibility to process and analyze experimental materials and to record their observations as directed by either a research scientist or a support scientist. They apply practical knowledge of the techniques associated with a segment of a subject matter area of science.

It is only under exceptional circumstances that the contributions of a technician will serve to warrant junior authorship of a scientific publication. Recognizing, however, that situations may occur where a technician will warrant coauthorship, prior approval from the appropriate Area Director, will be required.

The prospect of junior authorship should be foreseen and approval obtained at the outset of the project, but no later than after the work is completed and before the writing has begun.

- Graduate students may be employed for specific programs and purposes usually in one of the above categories. If a graduate student is employed as a scientist or technician, the guidelines for authorship listed below apply accordingly. These guidelines do not apply if a graduate student is a university (non-Federal) employee and is conducting a research project in an ARS research unit.

3. GUIDELINES

Criteria for authorship:

- Each author of a manuscript must be sufficiently familiar with all phases of the work to be able to describe and (if necessary) defend the problem, the approach, the findings and the significance of the findings. It is not necessary, however, that each author be a fully qualified expert in every technique or method employed in the research.
- In addition to the above, an author of a manuscript must have participated in at least one of the following ways:

- Identified the problem, planned the approach, and followed the course of the research to completion. Others may have contributed to the innovative planning and conduct of the research, but their contributions were much smaller.
- Worked as a team member and provided creative solutions to the portions of the problem which were assigned or assumed. Maintained contact with other team members and had complete awareness of the scope of the problem and the overall research approach throughout the conduct of the work.
- Wrote the manuscript, followed it through the review and revision process and is fully capable of acting as spokesperson for the work as outlined in the first bulleted paragraph above in this section.
- Contributed expertise or insight so original or unique that the research could not have been effectively pursued without this input. The actual involvement of personal time and effort may have been small, but the individual is fully capable of acting as spokesperson for the work as outlined in the first bulleted paragraph above in this section.

Insufficient criteria for authorship:

- Supervised individual(s) involved in the research, but the supervision given was administrative only and did not include any of the elements listed in the second bulleted paragraph above in this section under Criteria for authorship.
- Served as support and had little or no input into research planning or development of innovative research approaches. Followed someone else's planned course of actions which led to results.
- Supplied materials, information, or suggestions that aided the conduct of the research, but did not significantly impact the outcome of the research.

NOTE: Although they do not merit authorship, first and second bulleted paragraphs above are often contributions worthy of an acknowledgment.

- Conceived a research problem, but did not plan a detailed research approach or did not maintain contact with research progress.

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